in 9, abscess of the lung or empyema in 12, and the average time of healing was ten weeks. In Möller's 19 stab wounds which penetrated the lung, none died, in none was there suppuration, and the average time of healing was three and one-half to four weeks. Möller gives the indications for operation as follows: Severe primary hemorrhage; continuing and repeated hemorrhage; severe pneumothorax and emphysema; and secondary pneumothorax. With the observance of these indications, the prognosis of these cases in the future should be somewhat better than they have been up to the present with conservative treatment.

Stasis Hemorrhages Resulting from Compression of the Thorax and Abdomen.—Koch and Ronne (*Archiv f. klin. Chir.*, 1909, xcl, 371) reports a case in which a man was severely compressed in an elevator accident. Immediately after the accident his appearance was alarming. His head and neck were very cyanotic, of a dark blue, almost black, color, and he had small and large petechial hemorrhages under the skin everywhere. The head was swollen out of shape and the breathing was almost imperceptible. The skin of the neck projected over the collar of the clothing, the eyes protruded, and there were subconjunctival hemorrhages. In striking contrast to these phenomena was the slight effect on the general condition. Very often these patients are completely conscious during the whole period of the compression of the chest and abdomen. The cyanosis disappears in a few days, the small hemorrhages somewhat later, the subconjunctival hemorrhages remaining perhaps several weeks. If no complicating lesions are present, in a few days the patients probably feel sound. In 58 collected cases, in only 7 did the complications produce a fatal result. The most probable explanation of the phenomena is that with a closed glottis the blood of the lungs and heart is forced into the peripheral vessels. The cyanosis is very marked in the head and neck and very rare in the extremities, because the jugular veins have no valves. They are occasionally insufficient in the axillary, but are very resistant in the veins of the lower extremities. Disturbances of sight are common, often without demonstrable cause ophthalmoscopically. They were present in 11 (12 with the case here reported) out of the 58 cases. Occasionally there is a brief double blindness, which lasts for some minutes or a half hour. In other cases sight does not return or does so only incompletely, and after some time an atrophic discoloration of the papillæ develops showing that the nerve fibers have become degenerated.

An Experimental and Literary Study Concerning the Manner and Pathway of Extension of Urogenital Tuberculosis.—Sawamura (*Deut. Zeit. Chir.*, 1910, ciii, 203) in investigating the method of extension, assumes that in primary urogenital tuberculosis, the process begins in the kidney and extends through the ureter to the bladder and prostatic urethra, and through the vas deferens to the testicle. It may begin in the testicle and extend in the reverse direction, or beginning in the seminal vesicles, it may extend in both directions to the testicles and kidneys. Upon the basis of the literature it is agreed that the process often begins in the kidney and that the bladder may, in time, be infected, although a sound mucous membrane can, to a certain extent, protect the bladder. Tubercle bacilli in the bladder, usually, will not infect the kidney, if the normal stream of urine is not obstructed, but will do so in the presence of such obstruction. When tubercle bacilli are injected into the ureter, especially, into the renal pelvis, tuberculosis of the kidney can be produced, with or without ligation of the ureter, although the latter undoubtedly favors its development. The infection must pass by the blood, lymph, or ureter. The blood path is excluded from consideration because by it is produced usually a general tuberculosis. Sawamura carried out experiments on dogs to determine the path of extension. He failed to find that the tubercle bacilli ascended from the bladder through the ureter to the kidney. By direct injection of the bacilli into the lumen of the ureter, without subsequent occlusion of the ureter, a renal tuberculosis was produced. Extending by the lymph paths to the kidney, vesical or genital tuberculosis rarely invades the kidney. It may ascend from the bladder to the kidney without obstruction of the blood stream, when from contraction of the bladder a relatively high internal pressure is produced and in any manner an antiperistaltic movement of the ureter occurs. Tuberculous involvement of the lower end of the ureter may produce the necessary obstruction, stagnation, and dilatation, to permit the tubercle bacilli to reach the kidney. That the process may ascend by the lymph paths cannot be denied, although it has never been established in men or animals with certainty. Tuberculosis of the testicle or epididymis, as a rule, extends through the vas deferens toward the urethra. More rarely it may extend by the lymph vessels. It may remain localized in the testicle and epididymis. Often the vas is involved. The lymph vessels of the testicle go chiefly to the nodes along the inferior cava, near the entrance of the spermatic vein; those from the epididymis to the nodes along the hypogastric vessels. The central (lying next the urethra) portion of the vas deferens, may become infected from tubercle bacilli in the urine. Tuberculous epididymitis can develop from tubercle bacilli in the urine by way of the vas deferens, provided the orifice of the vas or its lumen is blocked, so that with the stagnation of the secretion and exudate, the tubercle bacilli are transported to the epididymis. Extension from a tuberculous epididymis, without participation of the vas deferens, did not occur in Sawamura's experiments, although Oppenheim, and Law and Hausen considered this possible. A primary focus of tuberculosis can develop in the prostrate. It may involve the seminal vesicles and it is assumed, therefore, that it may extend to the epididymis. The seminal vesicles may be involved alone. Sawamura believes that in dogs an ascending tuberculosis of the female genitals can occur.

The Treatment of Bone and Joint Tuberculosis by the X-rays.—ISELIN (*Deut. Zeit. f. Chir.*, 1910, ciii, 483) had already obtained excellent results in the treatment of tuberculosis of glands and other soft tissues. Two years ago, at the request of his chief, Prof. Wilms, he undertook the same treatment of the bones and joints. In all, 41 cases were treated, including the bones and joints of the hand, foot, elbow, knee, sacro-iliac joint, and ribs. The method was as follows: In the beginning of the treatment, the bone or joint was exposed to the *x*-rays, three or four times at short intervals, every exposure being made from a different side and always with the fullest dose, until all parts had been exposed. The rays were passed through an aluminum plate, 1 mm.